

Applic. No.: 10/752,627

Amdt. Dated June 14, 2005

Reply to Office action of March 14, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

[[1)]] 1 (currently amended). A measuring device comprising:

a measured value processor;

a sensor arrangement (2) to record for recording values, in particular angles and linear values, which produces said sensor arrangement producing at least two signals phase-shifted to one another as a continuous function and in which these signals are, said signals being supplied to [[a]] said measured value processor, characterized in that;

an adjustment unit (7) is being connected in series to the said sensor arrangement (2), which adjusts the said adjustment unit adjusting amplitudes of the said phase-shifted signals (41, 42) to one another and/or produces producing from said phase-shifted signals (41, 42) signals which are out of phase by about 90°, which are said produced signals being then evaluated and outputted for further processing.

[[2)]] 2 (currently amended). [[A]] The measuring device as

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~~recited in according to~~ claim 1, ~~characterized in that wherein~~  
adjustment takes place at the times when ~~the~~ said phase-  
shifted signals intersect ~~the~~ a common reference.

[[3]]] 3 (currently amended). [[A]] The measuring device as  
~~recited in according to~~ claim 1, ~~characterized in that wherein~~  
~~the~~ said phase-shifted ~~sensor~~ signals have sinusoidal values.

[[4]]] 4 (currently amended). [[A]] The measuring device as  
~~recited in according to~~ claim 1, ~~characterized in that wherein~~  
for any phase-shifted values the 90° phase-shift results from  
addition or subtraction of the values.

[[5]]] 5 (currently amended). [[A]] The measuring device as  
~~recited in according to~~ claim [[1]] 2, ~~characterized in that~~  
~~wherein the~~ said common reference is created by producing ~~the~~  
an average value of at least two values phase-shifted by 90°.

[[6]]] 6 (currently amended). [[A]] The measuring device as  
~~recited in according to~~ claim [[1]] 2, ~~characterized in that~~  
~~wherein the~~ said common reference is firmly set.

[[7]]] 7 (currently amended). [[A]] The measuring device as  
~~recited in according to~~ claim 1, ~~characterized in that wherein~~  
for non-symmetrical, calculated amplitudes of ~~the~~ particular

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values, ~~their~~ a reference thereof is suitably adjusted in the said adjustment unit.

[[8)]] 8 (currently amended). [[A]] The measuring device as ~~recited in according to~~ claim 1, ~~characterized in that wherein~~ the non-symmetrical, calculated distances of the intersections of the particular values with the a common reference are calculated by taking into account ~~their~~ an adjustment speed thereof and ~~their~~ a particular reference thereof is correspondingly adjusted in the said adjustment unit.

[[9)]] 9 (currently amended). [[A]] The measuring device as ~~recited in according to~~ claim 1, ~~characterized in that further~~ comprising an interpolator, the values resolved by [[an]] said interpolator are being calculated by taking into account their adjustment speed and, if they fluctuate from one another, their amplitudes are being adjusted accordingly.

[[10)]] 10 (currently amended). [[A]] The measuring device as ~~recited in according to~~ claim 1, ~~characterized in that wherein~~ the distances of the sensors from one another are chosen independently of the a scale division.

[[11)]] 11 (currently amended). [[A]] The measuring device as ~~recited in according to~~ claim 1, ~~characterized in that wherein~~

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the same measuring device is used for varying scale divisions.

[[12]] 12 (currently amended). [[A]] The measuring device as ~~recited in according to~~ claim 1, ~~characterized in that wherein~~ two values phase-shifted by  $90^\circ$  and an additional value phase-shifted by  $180^\circ$  are created from ~~the~~ said phase-shifted signals and used for evaluation.

[[13]] 13 (currently amended). [[A]] The measuring device as ~~recited in according to~~ claim 1, ~~characterized in that wherein~~ ~~the said~~ adjustment unit (7) ~~and preferably also the whole~~ ~~electronics unit (8) including the sensor arrangement (2) are~~ is located on an ASIC equipped with fixed hardware functions for an integrated or mounted encoder ~~(1, 200)~~.

14 (new). The measuring device according to claim 1, wherein said sensor arrangement is for recording angles and linear values.

15 (new). The measuring device according to claim 1, wherein a whole electronics unit including said sensor arrangement is located on an ASIC equipped with fixed hardware functions for an integrated or mounted encoder.